



ROUNDUP

NASA LYNDON B. JOHNSON SPACE CENTER

HOUSTON, TEXAS

VOL. 15 NO. 18

Friday, September 10, 1976

Shuttle Orbiter rolls out next Friday New era of space transportation beginning

The flagship of a new era of space transportation will be unveiled by NASA, Sept. 17, when Orbiter 101, the first reusable Space Shuttle vehicle, is put on public display in Palmdale, Calif.

As many as 600 invited guests, including national, state, local and foreign officials, are expected to attend the rollout ceremonies beginning at 9:30 a.m., PDT, at Rockwell International's Space Division assembly plant.

A welcome will be extended by U.S. Sen. John Tunney of California.

Scheduled to give brief remarks at the ceremony are NASA Administrator Dr. James C. Fletcher, U.S. Sen. Barry Goldwater, U.S. Rep. Olin Teague and Willard F. Rockwell Jr. of Rockwell International.

Acting as master of ceremonies for the event will be John F. Yardley, associate administrator for the Office of Space Flight.

Music will be provided for the ceremony by the Air Force Band of the Golden West from March AFB.

The roll-out program was still being firm up at *Roundup* press time.

Although Orbiter 101 is the first vehicle off the assembly line, it will not be the first to fly into space.

Its first job in 1977 will be as a test vehicle for Approach and Landing Tests (ALT) to verify its aerodynamic characteristics. These will be conducted at NASA's Dryden Flight Research Center, Edwards AFB, Calif.

First flights will be unmanned and manned captive flights with the Orbiter attached to the top of a 747 jetliner. In July, 1977, the Orbiter will be released from the 747 carrier for the first manned free flight.

Following ALT, extensive ground vibration tests will be conducted on the vehicle at NASA's

Marshall Space Flight Center, Huntsville, Ala. It will then be returned to Palmdale for modifications to prepare it for space flight.

The second Orbiter, OV-102, is scheduled for final acceptance roll-out in July, 1978, and will make the first manned orbital Space Shuttle flight in March, 1979.

The Orbiter is designed to be used up to a minimum of 100 times. It is 122 feet long, weighs 75 tons and has a wingspan of 78 feet.

The Space Shuttle Transportation System consists of the Orbiter, two solid rocket boosters and an external fuel tank which feeds the Orbiter's three main engines.

The Orbiter and solid rocket boosters are reusable. Only the external tank is jettisoned and not recovered.

Orbiter is capable of carrying inside its 60 foot by 15 foot cargo bay a 65,000-pound payload into low earth orbit (about 200 miles altitude).



Folkdancers highlight Hispanic observance

The Ballet Folklorico, a renowned folk dance group from Mexico, is scheduled to perform at JSC Tuesday, Sept. 14, during the center's observance of National Hispanic Heritage Week.

The colorfully-dressed dancers will provide a lively finale to an afternoon program in the Building 2 auditorium centered on the theme, "Hispanic Heritage: Past, Present, and Future."

Speaking on the three aspects of the theme will be Leonel Castillo, controller of the City of Houston; Roberto Ornelas, regional administrator for the Office of Contract Compliance, and Dr. Josephine Sobrino, director of professional education for the University of Houston at Clear Lake City.

Houston television news reporter Frank Agraz will act as master of ceremonies for the program, which begins at 1 p.m.

A welcome to the center will be extended by JSC Director Dr. Christopher C. Kraft Jr. Opening remarks will be made by Jose R. Perez, deputy chief of the Equal Opportunity Programs Office.

Sobrino, who is also a professor of Spanish at UHCLC, will recall the past in her speech. "An American in Search of His Identity."

Castillo will direct his remarks to the present with his talk, "Building a People."

Ornelas, a past national president of the League of United Latin American Citizens, will address the

future of Hispanic-Americans in his speech, "A Native, Not a Stranger."

The Ballet Folklorico is scheduled to perform at 3 p.m. Their appearance here is being provided through the courtesy of Fiestas Patrias of Houston.

National Hispanic Heritage Week, Sept. 12-19, was proclaimed to draw attention to the contributions made by Spanish-speaking Americans to the economic, social and cultural growth of our country.

Serving on the planning committee for the JSC observance are Perez, Arturo Campos, Joe Garcia, Pamela Gladis, Susie Gonzales, Carlos Ramirez and Juan Rosales.

Simulation manager to speak at meeting

Shuttle Simulation Mgr. Riley D. McCafferty will describe the Shuttle Mission Flight Simulators and discuss their functions Sept. 16 at the Gilruth Recreation Center.

McCafferty will be speaking at the September joint meeting of JSC-area chapters, Association for Computing Machinery, Institute of Electrical and Electronics Engineers and the Instrument Society of America.

The Shuttle Mission Flight Simulators represent the highest state of the art of simulators in the world. They involve complex digital control, motion base stimuli and the

most advanced visual, out-of-the-window scene production ever done.

McCafferty is expected to show films on the subject and answer questions from the audience.

The meeting will begin with a social hour at 6 p.m. Dinner will be served at 7 p.m. and McCafferty will speak at 8 p.m.

Non-members as well as members are welcome but reservations must be made by Monday, Sept. 13. Cost is \$3.50 per person. Call Jackie at 333-6147 or Tess at 483-2791.

One gift of blood can insure blood needs of entire family

JSC and contractor employees can insure their families' blood needs for a full year by participating in the 1976 JSC Blood Bank Drive.

The JSC drive for fall will be held Thursday, Sept. 23, at the Gilruth Recreation Center.

Appointments may be made by contacting Helon Crawford, JSC Blood Bank Committee chairman,

ext. 3809, or Bob Jones, co-chairman, ext. 3271.

Dates of other drives, and names of persons to contact, are listed on Page 50 of the JSC telephone directory. All drives are open to Civil Service and contractor employees, Crawford said.

The JSC Blood Bank, a function of the Employees Activities Association, is under exclusive contract with St. Luke's Episcopal Hospital Blood Bank.

"The contract with St. Luke's assures them of a constant source of blood and assures us better coverage for our blood needs than any other blood insurance program in the Gulf Coast area," Crawford said.

To continue the outstanding coverage provided by the contract, all on-site blood drives, both scheduled and unscheduled, must be coordinated through the JSC Blood Bank chairman.

Donation of one unit (pint) of blood insures all blood needs of the donor, his immediate family, parents, mother-in-law and father-in-law for 12 months from the date of donation.

Employees who are unable to donate may get someone else to give in their name and thereby

establish membership in the program, Crawford noted. Special provisions can also be made under the contract for the blood needs of nonmembers.

"Once membership is established, should the need arise, all that must be done is to show the receiving hospital your card that indicates you are a member of the JSC Blood Bank," Crawford said.

When St. Luke's is contacted, all they need is the name of the person to receive the blood, location of the receiving hospital and name of the member. Members and their families are covered anywhere in the United States.

"During the past several years ... I have seen the end results of our drives," Crawford observed.

"So many of our JSC employees or their families have either been in wrecks, accidents or had serious surgery or a critical disease where large amounts of blood are required. Through our combined efforts, these people have been helped."

Blood has a shelf life of 21 days. Of that blood which is not used for transfusion, some is used for research at St. Luke's. Some is given to the VA Hospital, Ben Taub Hospital or the Jeff Davis Hospital.



MONEY WINNERS - Receiving cash awards recently for inventions suggestions or technical briefs were (seated, L to R) James C. Stamps, Jack Naimer, James L. Youngblood, Maynard R. Huntley, Carl A. Romero, Leo T. Chauvin, (standing, L to R) Jack Kinzler, award presenter, Alfred P.

Sanders, Leo G. Monford Jr., Robert N. Stuckey, Matthew I. Radnofsky, Dale G. Sauers, Dawn G. Hoyle, Richard H. Campbell, Hoyt McBryar, Richard L. Sauer and Raymond C. Heiskala. Seven other recipients are not pictured (see story).

Employees earn cash honors

NASA recognizes efforts of 23 at JSC

Cash awards totaling \$3,180 were recently shared by 23 JSC employees in recognition of their inventions, suggestions or technical briefs.

Recipients were presented their checks and certificates by Jack Kinzler, chief of the Technical Services Division, during ceremonies last month.

Winner of the biggest award was James Stamps, Television Office chief, who received \$1,500 for his part in developing a color TV noise-reduction unit. An article on Stamps appeared in the last issue of the *Roundup*.

Joe L. Day of the Systems Development Branch, Bioengineering Systems Division, received \$400 for his efforts in improving a perspiration biopotential electrode used for obtaining physiological data.

Dale G. Sauers, Materials Technology Branch, Structures and Mechanics Division, was presented \$125 for his suggestion that the JSC Dispensary provide a take-home screening test for cancer of the colon and rectum.

Awarded \$100 for suggesting an improvement in incremental audit reports was Raymond C. Heiskala of the Quality Assurance Division.

Richard L. Sauer, Systems Support Branch, Bioengineering Systems Division, and Paul W. Shores, Tracking Techniques Branch, Tracking and Communications Development Division, received invention awards of \$100 each.

Sauer was recognized for his joint work on automatic biowaste sampling. Shores was cited for developing a position determination system.

Hoyt McBryar, Power Generation Branch, Propulsion and Power Division, received two \$50 checks

for work on outstanding tech briefs.

Ten other employees were presented \$50 each for their work on tech briefs. They were Kent D. Castle, Control Systems Development Division, and W. Richard Downs, Structures and Mechanics Division.

Also, Leo G. Monford Jr., Urban Systems Project Office; Jack Naimer, Structures and Mechanics Division; Matthew I. Radnofsky, retired from the Crew Systems Division, and Carl A. Romero, Engineering Division.

And Alfred P. Sanders, Technical Planning Office; Richard J. Williams, Lunar and Planetary Sciences Division; James L. Youngblood, Structures and Mechanics Division, and John A. Zill, Program Operations Office.

Receiving \$50 each for their suggestions were Burney H. Goodwin, Personnel Office; Maynard R. Huntley, Data Systems and Analysis Directorate, and Robert N.

Stuckey, Structures and Mechanics Division.

Presented \$35 awards for their suggestions were Richard H. Campbell, Personnel Office; Leo T. Chauvin, Engineering and Development Directorate, and Dawn G. Hoyle, Personnel Office.

Co-op of the Month

Pair shares award

Sharing the spotlight as Co-ops of the Month for September are Cooperative Education students Michael Hollars and Sandra Richardson.

Hollars is a junior engineering major at the University of Texas at Austin. Richardson is a senior physics major at Pan American University.

Nominating Hollars for recognition was T. A. Guillory, chief of the Orbit and Rendezvous Planning Section. The student has worked in the Flight Activities Branch, Flight Operations Directorate.

Hollars "provided significant

analytical support to development of Orbiter final approach techniques" which "are being developed using the man-in-the-loop Shuttle Engineering Simulator," Guillory said.

The UT student developed a radius vector approach chart for use by Orbiter crewmen to monitor the final approach along the radius vector, Guillory noted.

Richardson was nominated for the honor by R. B. MacDonald, chief of the Earth Observations Division. She has worked in the division's Exploratory Investigations Branch, specifically on the Detection and Mapping package.

Richardson "has generated a geometric model for a Landsat scene and applied varying data to simulate spacecraft attitude," MacDonald said. "These data are now being compiled to graphically demonstrate the effects of attitude change."

Richardson also reviewed the user documentation for the update package and transmitted the required information to the Technology Utilization Office for entry into the NASA Computer Software Management and Information Center, MacDonald said.

JSC duty tour ends for summer workers

More than 275 persons attended the annual JSC Summer Employee Banquet which marked the end of the 1976 Summer Employment Programs here.

Outstanding performance awards were given to 16 Summer Aids and VOE's and one JSC employee was singled out for special recognition.

Gloria Martinez, of the Software Development Branch, Mission Planning and Analysis Division, received an Equal Opportunity Award for her efforts.

Martinez recruited and arranged for transportation for disadvantaged youth employed through the program.

Also presented special awards were Gloria Bonilla of Ripley House and Continental Can Co.

Guest speaker at the banquet, held Aug. 23 at the Gilruth Recreation Center, was Dr. Josephine Sobrino, director of professional education at the University of Houston at Clear Lake City.

Outstanding awards went to Summer Aids Nora S. Aguilar, Ana

M. Almaguer, Rosa Linda Alonzo, Olga Castillo, Paulette R. Cruise, Karen S. Earl, Ventura Martinez, Charline E. Moore, Dorothy L. Swindell and Georgetta V. Washington.

Also to VOE's Esther Acosta, Elda Gonzales, Margery Little, Mary Ojeda, Yolanda Sloan and Lynn Washington.

Honorable mention honors went to 31 other Summer Aids and VOE's.



Gloria Martinez

EAA youth activities decrease as average employee age rises

By James McBride
(This is another in a series of articles by Employees Activities Association President McBride based on results of an EAA employee survey.)

Youth activities have always been focused on smaller children, age 12 and younger, because it is all but impossible to plan an event which will interest a sufficient number of teen-agers to make it worthwhile.

In past years, when the average age of center employees was younger, there were many children of sub-teen age and the problem was adequate space.

The average center employee age has now increased and the number of small children has decreased accordingly. Still the parties are well attended and will be continued as a subsidized EAA event as long as participation warrants.

Three years ago, many parents requested photographs of their children from the photographer at the Christmas Party so it was decided to add pictures as part of the event. Though popular, they have created problems with long lines and delays.

This year, it is hoped both problems can be alleviated by scheduling

and the use of faster cameras.

The Easter Egg Hunt is another long-standing event and, like the Christmas Party, it has not been without its problems.

Among the major ones are: how to restrain 500 eager kids for up to an hour; how to keep parents out of the hunt, and what to do for latecomers since the fields are swept clean within 10 minutes after the hunt begins.

Except for the Christmas Party and Easter Egg Hunt, efforts are now being directed toward the promotion of family participation entertainment such as the Shrine Circus, Astroworld and Sea Arama.

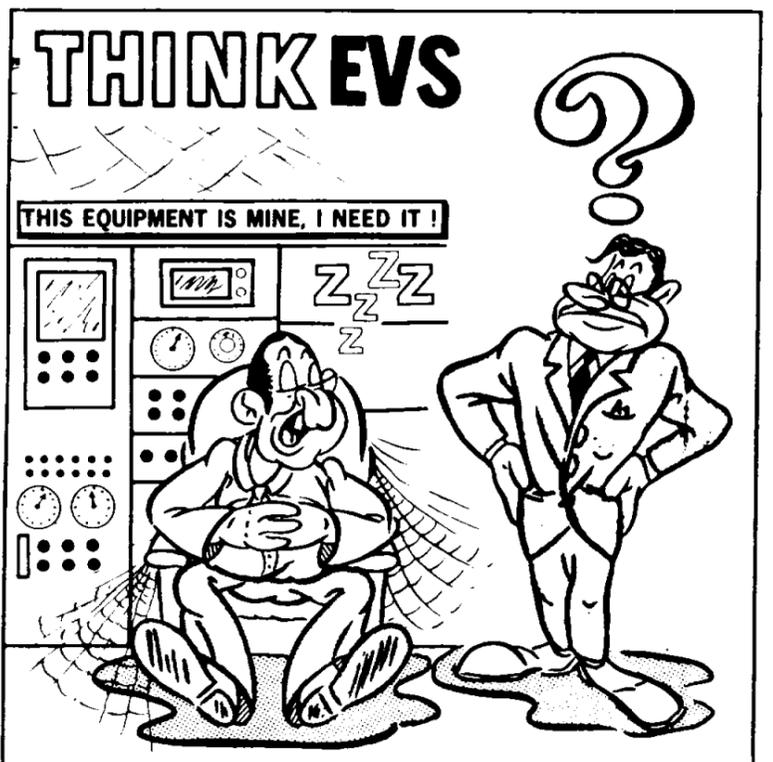
The survey did indicate an interest in a teen-age dance and the feasibility of such a dance will be investigated.

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The Roundup is an official publication of the National Aeronautics and Space Administration Lyndon B. Johnson Space Center, Houston, Texas, and is published every other Friday by the Public Affairs Office for JSC employees.

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TAKE ANOTHER LOOK AT THE "ACTIVE" EQUIPMENT YOU'RE HOLDING. SOMEONE ELSE MAY REALLY NEED IT! Contact your Equipment Visibility System coordinator. Call ext. 2281.



FIRST TO THE PICNIC - Dr. Robert R. Gilruth, retired center director and consultant to the NASA administrator, buys the first two tickets to the 1976 JSC Picnic from Mary Lee Meider. Tickets to the Oct. 16 event are \$3 for admission and food and \$1 for admission only.

Stamp Club prepares Space Shuttle salute

The JSC Stamp Club will hold its sixth annual stamp exhibition. SPACEPEX 76, Sept. 18-19 at the Holiday Inn, 1300 Nasa Road 1.

JSC negotiates for protective service contract

JSC has selected Mason-Reguard of Lexington, Ky. for negotiations leading to award of a cost-plus-award-fee contract for protective support services at the center.

Included in protective services are security, police services, operation of fire department, safety/fire engineering and emergency ambulance service.

Mason-Reguard's proposed cost and fee for providing these services for the period Oct. 1, 1976, through Sept. 30, 1977, is approximately \$1,837,000.

NASA has the option to extend the contract at the end of the first year for two more one-year periods.

This year's exhibition theme is "Salute to Space Shuttle." Admission is free and the show is open to the public.

More than 1,200 pages of exhibits, 22 dealers, and a U.S. Postal Service substation will be included in the show, according to Robert Breigh, exhibit chairman.

The sterling silver JSC Stamp Club Philately Award will be presented to the best space topic exhibitor.

A number of other special awards will be given, in addition to first, second and third place awards in open competition. Gale Raymond, Alan Doyle and Sam Wilkinson will serve as judges.

The SPACEPEX Awards Banquet begins at 7:30 p.m. Saturday, Sept. 18.

Regional meetings of the Space Topic Group and the Houston Cover Club will be held Saturday afternoon and the Hong Kong Study Group and United Postal Stationery Society will meet Sunday afternoon.

COMING EVENTS

- Defensive Driving - Sept. 20-23
- JSC Blood Drive - Sept. 23
- Stop Smoking Clinic - Oct. 4-8
- JSC Picnic - Oct. 16

TICKETS

Dean Goss Dinner Theater tickets for the comedy production *Love in E-Flat* are \$16/couple, good Thur-Fri-Sun only through Oct. 4. They are available at Bldg. 11, Exchange Store, 10 a.m.-2 p.m.

No. Windmill Dinner Theater tickets were received for September.

Also available are ABC Interstate theater tickets, \$1.50; free Disney Magic Kingdom Club cards and Six Flags Funseekers Club cards; Sea Arama adult tickets, \$3.25, children, \$2.25; and Houston Astros gift coupons, \$4 box seats, \$3.15 reserved seats.

DEFENSIVE DRIVING

Two courses in defensive driving have been scheduled at the Gilruth Recreation Center. The first will be Monday and Wednesday, Sept. 20 and 22; the second will be Tuesday and Thursday, Sept. 21 and 23. Both courses will be held from 6-10 p.m.

Registration will be in the Rec Center lobby on Monday and Tuesday, Sept. 13 and 14, from 8 a.m.-2 p.m. Fee is \$10, payable at registration.

SLIMNASTICS

The Ladies' Slimnastics Class will meet to re-group and "shape up" at 5 p.m. Monday, Sept. 20, in Room 215 of the Gilruth Recreation Center.

TENNIS LESSONS

Next set of group lessons will begin Sept. 14, scheduled each Tuesday and Thursday for four weeks. Beginners meet from 7-8 p.m., intermediates from 8-9 p.m.

Cost for either group session is \$30. Instructor is Al Pavone.

Instruction for individuals or pairs is also available. Gid Weber can teach on Tuesday nights: \$18/hr for individuals (4 hr minimum) or \$40/person for 4 hrs of lessons for two.

Jim Blumentritt can teach Tues/Weds/Thurs/Sat: \$16/hr for individuals (4 hr minimum) or \$44/person for pairs (4 hrs).

To register, call the Rec center at ext. 3594.

GROUND SCHOOL

The Aero Club will offer its audio visual private pilot ground school from 5-8 p.m. Tuesdays in Room 215 of the Gilruth Recreation Center.

Subjects to be covered include pre-flight, navigation, regulations, meteorology, flight computer, radio communication, publications, and weight and balance of aircraft.

For more information, contact Jack Boze, X-3824, or Bernie Marcantel, X-4766.

LEAGUE SPORTS

Fall softball is underway! Teams are now two weeks into the 7-week season. NASA III has jumped into an early lead in the women's league with two straight wins.

Both the Men's A & C League have 3-way ties for first place with all the teams at 2-0. The Blazers, Dreamers & Mets are tied in the "A" League. The Marx Brothers, Rookies & SMD are tied in the "B" League.

Womens & Mens Volley ball are at about mid-season. The High Hopes again seem poised to capture another womens volleyball title. Their record stands at 13-2. The Hazards are the only team close enough to give them a run, and their record stands at 11-10. The last time out the Hazards defeated the High Hopes 2 games out of 3.

Four teams are still in the running in the Mens League. They are: Lakers, 9-0; Hybrids, 6-0; Jaws, 8-1; Eight Ballers, 7-2.

I want YOU!



- TO BE WISE WHEN YOU ECONOMISE
- REPORT IT TO BH-23 COST REDUCTION
- USE FORM 1105A

Roundup Swap-Shop

Swap Shop advertising is open to JSC federal and on-site contractor employees. Goods or services must be offered as advertised, without regard to race, religion, sex or national origin. Non-commercial personal ads should be 20 words or less, and include home telephone number. Typed or scribbled ad copy must be received by AP3/Roundup by Thursday of the week prior to publication.

VEHICLES

- 71 Buick Estate Wgn. Loaded, very good cond. Best offer over \$1,300. 488-4393.
- 71 Sport Fury. Air, radio, new batt/shocks, good tires, pwr, auto, vinyl top. \$1,500. Bormann, 644-6850.
- Dune Buggy. Blue-grn metal flake, custom seat covers, top & windows. Looks sharp. 487-5679.
- 69 Chevy Chevelle HT. 307 cu standard, good cond. \$800. Gillis, 331-4269.
- Two boys' bikes. 20 & 24-in., \$20. ea. Child carrier for bike, \$4. Handley, X-5326 or 482-7041.
- 73 Toyota wgn. 4-spd, air, radials. \$2,295. 665-6993.
- 68 Olds 98 Lux Sdn. XInt cond, new paint, good radials, all xtras. \$995. 333-6563 or 332-6046.
- 76 Honda 750F. 2000 mi, windshld, crash bars, backrest, lugg rack. \$1900. Rogers, X-3576 or 944-7042.
- 74 Plym Duster. Air, auto, pwr, vinyl top. 333-4606.
- 74 Pinto Runabout. Brown, white vinyl top, air, auto, 27K mi. \$2,100. Myer, 474-4808.
- 73 Honda 175. Windshld, lugg rack, 4500 mi, adult owner. \$400. Hanisch, 554-6484.
- 73 Buick LaSabre. 2-dr HT, air, pwr, AM/FM stereo, chrome whis, 28K mi, xInt. Contella, 488-0284.
- 75 Chevy 3/4-ton, 4-WD longbed PU. 350, auto, pwr, air, radio, new tires, everything hvy duty, 28K mi. \$5,185. Statz, 482-7607 after 6.
- 72 Honda CB350. Approx 6K mi, lugg box, Windom fairing. Ealick, X-6226.
- 74 Chevy Luv PU w/camper. 16K mi, xInt cond. \$2,495. Hodges, X-2231 or 941-0169 after 5:30.

- 68 BMW 1600. Great shape. \$1,700. 333-2946.
- 74 Chevy 1/2-ton PU. Auto, air, new motor. \$3,500. 944-7493 after 6.
- 75 Honda 360. Disc brakes, elec start, 5 mo. old, new cond. Cost \$1100. Sell \$700. Kosel, 534-6098.
- 75 Chevy LN Nova. Loaded, 10K mi. new car warranty. \$3,500. Owen, 334-1696.
- 71 Flat 124, 4-dr sedan. 4-spd, air, 25-31 mpg. \$850. Maas, X-5026 or 488-2965 after 5.
- 74 Flat 124, 4-dr sedan. Auto, air, radio, htr, 20K mi, 20-25 mpg. \$2,400. Maas X-5026 or 488-2965 after 5.
- 75 Buick Gran Sport. Low miles, xInt cond, air, pwr, tape AM/FM, auto. Schneider, 426-4749.
- 73 Toyota Corolla. XInt cond. 334-3062.
- 73 Ford 1/2-ton PU. Pwr, air, fiberglass box cover, radials, manual, xInt cond. \$2,750. 333-2366.
- 68 Chevy PU 1/2-ton LWB. V-8, 6-ply tires, shell cover, xInt cond. Senter, 482-7835.
- 72 Pontiac Bonneville. 4-dr HT, air, pwr, AM, mech perfect, new tires, 50K mi. \$1,390. Dornbach, 334-3459.
- 66 VW Beetle. Fair cond, recently overhauled, new batt. \$195. See at 18222 Pt. Lookout Dr., Nassau Bay. Walker, 333-2265 nites. Wood, X-2831 days.
- 75 Honda CVCC Hatchback. Like new, AM/FM, new steel radials. \$2,800 firm. 1-288-4218 after 5:30.

BOATS

- 16-1/2' Wellcraft. 115 HP Merc eng, pwr tilt, hvy-duty trlr, xtras. \$2,200. 485-3558 after 5:30.

- 1974, 18' Invader Tri-hull. Walk-thru windshld, 85 Merc O/B, loaded, plush, great ski rig, used less than 50 hrs. Verrengia, X-3931 or 485-5209.
- 22' Chrys Commodore w/135 HP Chrys outbd. Best offer. 334-2360.
- 14' alum boat. Semi-deep V, 20 HP Merc, galvanized tilt trlr, swivel seats, floor boards, good cond. \$500. 482-7757.
- 73 Falcon Jaguar 19' tri-hull. 125 Johnson, pwr tilt, walk-thru windshld, two 18-gal bit-in gas tanks. Galvanized tandem trlr, surge brakes, elec winch. XInt cond. \$4,300. Campbell, 672-9445 or 487-1535 after 5.
- 16' Luger sailboat. Nice family boat, sm. whl trlr incl. \$1050. Fox, X-5979 or 333-4460.

PROPERTY AND RENTALS

- Waterfront lot, Loch Ness Cove. 76' water by 209' deep, bulkheaded. \$16,000. 485-3558 after 5:30.
- 2, 2-1/2, 2 townhouse for sale. XInt res for indiv, couple or investment. 488-4393.
- Waterfront retirement or weekend home. Northside, Canyon Lake. 1 b/r, 1 bath, fireplace, carport, screened porch, stone construction. \$18,900. Siegfried, 334-2848.
- Lrg lot w/75-yr-old oak tree on hill. Livingston's best view. In Memorial Pt., family resort w/amenities and full-time security. Verrengia, X-3931 or 485-5209.
- Investment. Small acreage off NASA 1. Best offer. 334-2360.
- Beach Cabin Rentals. \$80/wkend, \$150/wk. 334-2360.

PETS

- FREE: AKC sable sheltie. XInt family pet. Morris, 356-1188 or X-5825.
- Brittany Spaniel pups, AKC. Roan colored, parents good hunters, wormed shots. \$85. See sire and dame. Hitchcock, 986-5330.
- AKC Irish Setter pups. Wormed. Males \$85, females \$75. Sharon, X-4086 or 925-2291 after 6.

HOUSEHOLD ARTICLES

- Singer Style-o-matic sew mach. 2-dwrw console, zigzag, deco stitches, just cleaned, adjusted. \$120. Loden, 488-2273 after 4:30.
- Sears Kenmore apt-size washer & dryer. Under 2-yr old. Warranty good til July '78. \$275. 487-5114.
- Couch & matching chair, \$35. Pole lamp, \$5. Swivel chair, \$7.50. 334-4175.
- 5-pc bedroom suite. Triple dresser, chest, headbd, nite std & lamp. Perfect. \$290. 488-4372.
- Baby bed. \$25. 944-2901 evngs.
- B&W TV, 19 in. RCA w/stand. \$20. Aquarium, 5-1/2 gal w/accessories. Williams, X-5830 or 477-2622.

MISCELLANEOUS

- Regulation Gymnast's Balance Beam, New. \$125. 488-4393.
- Beautiful ivy plant over 4' tall. Very healthy. \$17. Judy or Andrea, X-4441 or 334-2129 after 5.
- FOUND: Calculator at Bldg. 100 on Aug. 27. Send memo describing it to JM4.
- Oscilloscope, Allied-Knight wide-band model 83-YU144. Good cond. \$25. 488-4463.

- Firewood. 471-0262.
- Trailer hitch for 63-73 VW bug or Super Bug. \$15. Hanisch, 554-6484.
- Camper top for LWB truck. Insulated w/rack on top. \$200. 482-7546.
- 74 Starcraft fold-out camper. Stove, sink, ice box, sleeps 8. XInt cond. \$1,700. Alexander, 487-1088.
- Exec office furnishings: ebony steel & walnut matched pcs. XInt cond. Desks, chairs, credenza, lamps, roll-arounds, coord wall decor. \$1,800 value. Best offer. 334-2360.
- Cameras: Kowa Six. For the serious photog, like new. \$250. Leica 35mm w/50mm lens. Collector item. First \$325. 334-2360.

WANTED

- Baby crib, walnut, mahog or other dark wood. Jean, X-2071 or 944-7828 after 6.
- 73 Olds chassis and body manuals. Charlie, X-4117.
- Female to share brick home, Sage-mont, w/woman and 2 small children. \$125 mo. 481-6940.
- Mini motor home. Full bath preferred. 20-22', air dash and roof, incl pwr plant. Fox, 333-4460 or X-5979.

CARD OF THANKS

The family of Virginia (Ginger) Johnson wishes to express our gratitude for the friendship and assistance provided by the NASA-JSC and LEC-ASD personnel following the loss of our loved one.

Dorothy A. Rafuse.

Looking back: 15 years ago

'Oh, they gave us a home where the cattle did roam'

Fifteen years ago, cattle grazed on the grassy 1620-acre site where the JSC is now located.

In September, 1961, JSC photographer A. R. "Pat" Patnesky was working at Ellington AFB. He was asked to drive out to Clear Lake and take pictures of the newly-selected NASA site.

The "Cow Picture," below, has been published numerous times and been shown to visiting dignitaries to illustrate what the area was like before construction.

Here is Patnesky's own story about how that photo, and the others here, came about. He recalls:

"I'd been down in this area before, driving past it, going to Seabrook or something like that, but at the time when you went by you were just out in the country. NASA Road 1 was just a two-lane road.

"Where Nassau Bay is, that was nothing but trees till you came around where the LSI is now and you'd see the lake. On the left, that old mansion was there. You didn't have these trees. It was grazeland.

"NASA needed pictures of all the (structures) that were on the site that were going to be removed ... They just wanted to see what it looked like ... probably for artists' concepts.

"I drove out in a government

"...at the time when you went by you were just out in the country. NASA Road 1 was a two-lane road."

car. Back in the back there was a farmhouse — down there by the mansion — and right by it there was an old road that went in back by the woods. You could drive the old farmer's wagon trail.

"The windmill was out toward the (present) back gate. That large shed was near the Astronauts' Gym. There were three or four bridges, little old wooden things. Something like that canal was right down through the middle ... They had it dammed up.

"I was looking for these things. You could see the buildings but when I'd go along these little farmer's trails and find the bridges I'd get out of the car and go shoot them.

"I saw two or three snakes and there were plenty of jackrabbits. Of course there was deer here. There still are.

"The cows gave me a hard time. It took me about an hour to shoot their picture — the way they were standing. I wanted them to look at me.

"I just stood out there and waited and waited. Several times I even "mooded" to get their attention. Like you say, patience.

"When I came out to shoot this stuff I know ... I spent a whole four to five hours easy — most of it waiting for those female cows to fall madly in love with me."



HISTORIC PHOTOS — Top: Shed, near where Astronauts' Gym now stands. Above: Windmill near west corner of site. Telephone lines in background parallel what is now NASA Road 1. Left: Patnesky's cows.



Landsat senses fish in Gulf; fishermen prove its accuracy

A team of fishermen, engineers, physicists, oceanographers, biologists and computer specialists has "found" fish with a satellite in a unique experiment off the Louisiana coast.

This exercise represents the culmination of a larger effort — the Landsat Menhaden and Thread Herring Investigation — which began last year.

Investigating the feasibility of using satellite data for assessing fisheries resources in the northern Gulf of Mexico, and thereby enhancing management of them, has been a cooperative industry-federal government project.

Working together have been employees of NASA's Earth Resources Laboratory at Slidell, La., and the Southeast Fisheries Center of the National Marine Fisheries Service with boats, planes and their crews from member companies of the National Fish Meal and Oil Association.

Their work has shown that there are relationships between the distribution of menhaden and water turbidity — which the Landsat sensor measures as water color. From the water colorations sensed by Landsat, scientists can infer the probable presence or absence of menhaden.

The satellite cannot sense, or "see" fish directly. Menhaden vessels, fishing under the direction of their spotter pilots, confirmed the presence of menhaden in most, though not all, of the high probability concentration areas predicted by analysis of Landsat data. Special navigation systems plotted the location of the fish precisely in areas where they were predicted.

Thus they validated a technique for locating fish concentrations from space which may lead to a greatly improved understanding of coastal fishery ecology and to better methods for resource assessment.

While the test was a success, considerably more work will be required before an operational satellite system can be made available for application to fishery problems.

JSC school program ready for new year

School groups have again been invited to visit JSC for a space science educational program and self-guided tour.

A 50-minute lecture demonstration on the "Past, Present and Future" of space science is offered in the Building 2 auditorium.

These lectures, conducted by professional educators, cover rocketry, satellites, communications, manned space flight, propulsion systems, space transportation sys-

Computer Club plans exhibition at college

The NASA-JSC Computer Hobbyist Club will host a free demonstration of home computers at the University of Houston at Clear Lake City on Saturday, Sept. 25.

The show is open to the public and will be held from 10 a.m. to 4 p.m. in the atrium of the Bayou Building on the campus at 2700 Bay Area Blvd.

This will be the first time in the Houston area that hobbyists will be displaying their microcomputers. The JSC club will be joined in the demonstration by members of the Houston Amateur Microcomputer Club.

About 20 computer systems will

be on display, demonstrating a variety of applications which include games, music generation, automatic testing, home bookkeeping, simulation of a biologic process and more.

Most of the systems to be exhibited were built from kits by the club members. There will be a swap table for hobbyists to trade electronics and computer gear.

For information on the demonstration or the NASA-JSC Computer Hobbyist Club, call Marlowe Cassetti, 474-2923.

Student gets award for JSC research

A freshman student at the University of Texas Health Science Center at Houston has been recognized for outstanding work resulting from research he participated in at JSC.

Kim Hanson received an award last month for the most outstanding paper by a freshman completed under the Medical School Lab Preceptorship Program.

Hanson was the first student to do his program work here under a joint agreement signed earlier this year by UTHSCH and JSC officials.

The student worked in the Space Research and Operations Division. He helped evaluate sweat suppression under high workloads.